



American Academy of Political and Social Science

The Effects of Hot Spots Policing on Crime

Author(s): Anthony A. Braga

Source: *The Annals of the American Academy of Political and Social Science*, Vol. 578, What Works in Preventing Crime? Systematic Reviews of Experimental and Quasi-Experimental Research (Nov., 2001), pp. 104-125

Published by: Sage Publications, Inc. in association with the American Academy of Political and Social Science

Stable URL: <http://www.jstor.org/stable/1049870>

Accessed: 23-07-2016 02:15 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://about.jstor.org/terms>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Sage Publications, Inc., American Academy of Political and Social Science are collaborating with JSTOR to digitize, preserve and extend access to *The Annals of the American Academy of Political and Social Science*

The Effects of Hot Spots Policing on Crime

By ANTHONY A. BRAGA

ABSTRACT: In recent years, researchers have argued that police actions should be focused on high-risk crime places rather than spread thinly across the urban landscape. This review examines the available evaluation evidence on the effects of concentrating police enforcement efforts on crime hot spots. Five randomized experiments and four nonequivalent control group quasi-experiments were identified. The findings of these evaluations suggest that focused police actions can prevent crime and disorder in crime hot spots. These studies also suggest that focused police actions at specific locations do not necessarily result in crime displacement. Unintended crime prevention benefits were also associated with the hot spots policing programs. Although these evaluations reveal that these programs work in preventing crime, additional research is needed to unravel other important policy-relevant issues such as community reaction to focused police enforcement efforts.

Anthony A. Braga is a senior research associate in the Program in Criminal Justice Policy and Management of the Malcolm Wiener Center for Social Policy at Harvard University's John F. Kennedy School of Government and a visiting fellow at the U.S. National Institute of Justice.

NOTE: The author would like to thank Phyllis Schultze at Rutgers University's Criminal Justice Library for her valuable assistance in completing this review.

PLACE-ORIENTED crime prevention strategies have begun to occupy a central role in police crime prevention research and policy (Eck and Weisburd 1995). This idea developed from the hot spots of crime perspective, which suggests that crime does not occur evenly across urban landscapes; rather, it is concentrated in relatively small places that generate more than half of all criminal events (Pierce, Spaar, and Briggs 1988; Sherman, Gartin, and Buerger 1989; Weisburd, Maher, and Sherman 1992). Even within the most crime-ridden neighborhoods, crime clusters at a few discrete locations, and other areas are relatively crime free (Sherman, Gartin, and Buerger 1989). A number of researchers have argued that many crime problems could be reduced more efficiently if police officers focused their attention on these deviant places (Sherman 1995; Weisburd 1997). Three complementary perspectives on crime theoretically support these observations on the uneven distribution of deviance: rational choice, routine activities, and environmental criminology (Cornish and Clarke 1986; Cohen and Felson 1979; Brantingham and Brantingham 1991). By preventing victims and offenders from converging in space and time, police can reduce crime. A growing body of research evidence suggests that focused police interventions, such as directed patrols, proactive arrests, and problem solving, can produce significant crime prevention gains at high-crime hot spots (Sherman 1997).

These new perspectives on the ability of the police to prevent crime contrast with conventional social

science views that the police make only minimal contributions to crime prevention relative to more powerful social institutions like the family and labor markets (as discussed in Sherman 1997). A number of well-known empirical studies on basic police crime control strategies—random patrol, rapid response, and criminal investigation—support the assertion that police can do little to prevent crime (Kelling et al. 1974; Spelman and Brown 1984; Greenwood, Chaiken, and Petersilia 1977). However, based on new research evidence, many crime prevention scholars suggest the ability of the police to prevent crime may have more to do with how well they are focused on specific crime risk factors rather than how well they randomly patrol large areas, rapidly respond to calls for service, and make large numbers of reactive arrests (Sherman 1997; Clarke 1992; Goldstein 1990; Wilson and Kelling 1982). As such, police should focus their actions on the places, times, and people who pose the highest risks to public safety rather than dilute their crime prevention potency by spreading them thinly across the urban landscape. This review examines the available evaluation evidence on one type of risk-focused policing to prevent crime: concentrating police enforcement efforts in high-risk places where crime is concentrated, or hot spots policing.

SYSTEMATIC REVIEW OF HOT SPOTS POLICING STUDIES

This study reviews and synthesizes existing published and non-

published empirical evidence on the effects of focused police enforcement interventions at crime hot spots and provides a systematic assessment of the preventive value of these programs. In keeping with the conventions established by the systematic reviews methods literature, the stages of this review and the criteria used to select eligible studies are described below.

Types of studies

This review was limited to studies that used a no-treatment control group design involving before and after measures. In eligible studies, the no-treatment control group experienced routine police interventions (that is, regular levels of random patrol, ad hoc investigations, and the like). Crime places that received the focused police interventions were compared to places that experienced routine levels of traditional police service. The comparison group study designs had to be either experimental or quasi-experimental (nonrandomized) (Campbell and Stanley 1966; Cook and Campbell 1979).

Types of areas

To be included in this review, the focus of police interventions in the evaluations had to be crime hot spots or crime places. As John Eck (1997) suggested,

a place is a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area. . . . Examples of places include stores, homes, apartment buildings, street corners, subway stations, and airports. (7.1)

All studies where police interventions were focused on places smaller than a neighborhood, community, or police beat were considered. The units of analysis in eligible studies did not have to be hot spots or high-activity crime places. However, the police interventions had to be specifically targeted at hot spots within these larger area units.

Types of interventions

The interventions used to control crime hot spots were limited to police enforcement efforts. Suitable police enforcement efforts included traditional tactics such as directed patrol and heightened levels of traffic enforcement as well as alternative strategies such as aggressive disorder enforcement and problem-oriented policing (POP) interventions with limited situational responses and limited engagement of the public. To be considered for this review, POP initiatives had to engage primarily traditional policing tactics such as law enforcement actions, informal counseling and cautioning, and referrals to other agencies.¹ POP programs that involved multiple interventions implemented by other stakeholders, such as community members, business owners, or residential managers, were not considered.

Types of outcome measures

Eligible studies had to measure the effects of the police intervention on officially recorded levels of crime at the places. Appropriate measures of crime could include crime incident reports, citizen emergency calls for

service, or arrest data. Other outcomes measures such as surveys, interviews, and systematic observations of physical and social changes at places used by eligible studies were included in the assessment of program effectiveness. Particular attention was paid to studies that measured crime displacement effects and diffusion of crime control benefit effects. The value of policing strategies focused on specific locations has been questioned by the threat of crime displacement. That is, efforts aimed at reducing specific crime at a place will simply cause criminal activity to move elsewhere, be committed in another way, or even be manifested as another type of crime, thus negating any crime control gains (Reppetto 1976). More recently, academics have observed that crime prevention programs may result in the complete opposite of displacement—that crime control benefits were greater than expected and “spill over” into places beyond the target areas (Clarke and Weisburd 1994). The quality of the methodologies used to measure displacement and diffusion effects, as well as the types of displacement examined, was assessed.

*Search strategies for
identification of studies*

All published and unpublished studies, including those not written in the English language, were considered for this review. To identify studies meeting the criteria of this review, the following four search strategies were used:

1. Searches of online databases (see below);
2. Searches of narrative and empirical reviews of literature that examine the effectiveness of police interventions on crime hot spots;
3. Searches of bibliographies of police crime prevention efforts and place-oriented crime prevention programs; and
4. Contacts with leading researchers.

The following 10 databases were searched:

1. Criminal Justice Periodical Index;
2. Sociological Abstracts;
3. Social Science Abstracts;
4. Arts and Humanities Search;
5. Criminal Justice Abstracts;
6. National Criminal Justice Reference Service Abstracts;
7. Educational Resources Information Clearinghouse;
8. Legal Resource Index;
9. Dissertation Abstracts; and
10. Government Publications Office Monthly Catalog.

The following terms were used to search the 10 databases listed above:

1. Hot spot;
2. Crime place;
3. Crime clusters;
4. Crime displacement;
5. Place-oriented interventions;
6. High crime areas;
7. High crime locations; and
8. Targeted policing.

In addition, two existing registers of randomized controlled trials were

consulted. These included (1) the *Registry of Randomized Experiments in Criminal Sanctions, 1950-1983* (Weisburd, Sherman, and Petrosino 1990), and (2) the *Social, Psychological, Educational, and Criminological Trials Register*, or *SPECTR*, being developed by the U.K. Cochrane Centre and the University of Pennsylvania (Petrosino et al. in press).

Selection of studies

The four search strategies led to the identification of 588 distinct abstracts. The text of each abstract was screened carefully to identify potentially eligible studies, per the criteria described above. The screening process yielded 43 distinct abstracts that identified 18 potentially eligible evaluation studies.² The full-text reports, journal articles, and books for these 43 abstracts were acquired and carefully assessed to determine whether the interventions involved focused police enforcement efforts at crime hot spots and whether the studies used randomized experimental or nonrandomized quasi-experimental designs. Of the 18 studies, 9 were excluded from this review because the focused policing interventions were applied uniformly across areas much larger than specific high-crime locations (see, for example, Caulkins, Larson, and Rich 1993; Novak et al. 1999)³ and/or the treatment was not composed of primarily police-initiated enforcement tactics (see, for example, Green Mazerolle, Price, and Roehl 2000; Eck and Wartell 1996). The nine studies included in this review were the following:

1. Minneapolis Repeat Call Address Policing (RECAP) Program (Sherman, Buerger, and Gartin 1989);
2. Minneapolis Hot Spots Patrol Program (Sherman and Weisburd 1995);
3. Jersey City Drug Markets Analysis Program (DMAP) (Weisburd and Green 1995);
4. Jersey City POP at Violent Places Project (Braga et al. 1999);
5. St. Louis POP in Three Drug Market Locations Study (Hope 1994);
6. Kansas City Crack House Police Raids Program (Sherman and Rogan 1995a);
7. Kansas City Gun Project (Sherman and Rogan 1995b);
8. Houston Targeted Beat Program (Caeti 1999); and
9. Beenleigh Calls for Service Project (Criminal Justice Commission 1998).

Characteristics related to the methodological quality of the nine selected studies were extracted from the full-text journal articles and reports. These characteristics included the definition criteria used to identify crime hot spots, the quality of analytic methods to evaluate program outcomes, the measurement of displacement, any violation of randomization procedures, case attrition from the study, and any subversion of the experiment by participants. When appropriate and possible, the role of these methodological factors on the observed empirical results was noted. Since there were only nine studies selected, this review was conducted as a structured qualitative

exercise; no quantitative analyses were conducted.

*Characteristics of
selected studies*

The nine evaluations were conducted in five large cities in the United States and one suburb in Australia. Research teams involving either Lawrence W. Sherman or David L. Weisburd conducted six of the nine evaluations. The treatments used to prevent crime at hot spots fell into three broad categories: enforcement POP interventions, directed and aggressive patrol programs, and police crackdowns and raids (see Table 1). The effects of POP initiatives comprising mostly traditional tactics with limited situational responses were evaluated in the Minneapolis RECAP Program, Jersey City POP at Violent Places Study, St. Louis POP at Drug Market Locations Study, and Beenleigh Calls for Service Project (Buerger 1994, 6-7; Braga et al. 1999, 554; Criminal Justice Commission 1998, 28). The evaluation of the Houston Targeted Beat Program examined the effects of three types of treatments applied in different target areas; these interventions included high-visibility patrol, zero tolerance disorder policing, and enforcement POP (Caeti 1999, 246-50). The Kansas City Gun Project examined the gun violence prevention effects of proactive patrol and intensive enforcement of firearms laws via safety frisks during traffic stops, plain view searches and seizures, and searches incident to arrests on other charges (Sherman and Rogan 1995b, 681). The Minneapolis Hot Spots Patrol Program

evaluated the effects of increased levels of preventive patrol on crime (Sherman and Weisburd 1995, 634). The Jersey City DMAP and the Kansas City Crack House Police Raids Program evaluated the effects of well-planned crackdowns on street-level drug markets and court authorized raids on crack houses, respectively (Weisburd and Green 1995, 718; Sherman and Rogan 1995a, 766-67).

Five of the selected studies used randomized experimental designs, and four used nonequivalent control group quasi-experimental designs. All randomized experiments and one quasi-experiment, the St. Louis POP study, used crime hot spots as the unit of analysis. The remaining three quasi-experiments evaluated the aggregate beat-level effects of focused police interventions at hot spots within targeted beats. With the exception of the Minneapolis RECAP experiment, the experimental designs used more sophisticated methodologies to identify crime hot spots. The Minneapolis Hot Spots Patrol, Jersey City DMAP, and Jersey City POP at Violent Places experiments used the most sophisticated methods to identify hot spots. In general, the research teams defined hot spot areas by mapping official police call data to identify high volume street address clusters and intersection areas, ensured that these locations had stable numbers of calls over time, and considered qualitative indicators such as police and researcher observations to define hot spot boundaries (Sherman and Weisburd 1995, 630-32; Weisburd and Green 1995, 713-15; Braga et al.

TABLE 1
HOT SPOTS POLICING EXPERIMENTS AND QUASI-EXPERIMENTS

Study	Treatment	Hot Spot Definition	Research Design ^a
Minneapolis (MN) RECAP Program (Sherman, Buerger, and Gartin 1989)	POP interventions comprising mostly traditional enforcement tactics with some situational responses One-year intervention period Integrity of treatment threatened by large caseloads that outstripped the resources the RECAP unit could bring to bear	Addresses ranked by frequency of citizen calls for service divided into commercial and residential lists; the top 250 commercial and top 250 residential addresses were included in the experiment	Randomized experiment; control and treatment groups were each randomly allocated 125 commercial and 125 residential addresses Differences in the number of calls to each address from a baseline year to the experimental year were compared between RECAP and control groups
Minneapolis (MN) Hot Spots Patrol Program (Sherman and Weisburd 1995)	Uniformed police patrol; experimental group, on average, experienced twice as much patrol presence One-year intervention period Breakdown in the treatment noted during the summer months	One-hundred-ten hot spots comprising address clusters that experienced high volumes of citizen calls for service, had stable numbers of calls for over 2 years, and were visually proximate	Randomized experiment; control and treatment groups were each randomly allocated 55 hot spots within statistical blocks Differences of differences between citizen calls in baseline and experimental years, comparing control and experimental groups
Jersey City (NJ) DMAP (Weisburd and Green 1995)	Well-planned crackdowns followed by preventive patrol to maintain crime control gains Fifteen-month intervention period Slow progress at treatment places caused intervention time period to be extended by 3 months	Fifty-six drug hot spot areas identified based on ranking intersection areas with high levels of drug-related calls and narcotics arrests, types of drugs sold, police perceptions of drug areas, and offender movement patterns	Randomized experiment; control and treatment groups were each randomly allocated 28 drug hot spots within statistical blocks Differences of differences between citizen calls during 7-month pretest and posttest periods, comparing control and experimental groups

TABLE 1 Continued

Study	Treatment	Hot Spot Definition	Research Design ^a
Jersey City (NJ) POP at Violent Places Project (Braga et al. 1999)	POP interventions comprising mostly aggressive disorder enforcement tactics with some situational responses Sixteen-month intervention period Initial slow progress at places caused by resistance of officers to implement intervention	Twenty-four violent crime places identified based on ranking intersection areas with high levels of assault and robbery calls and incidents as well as police and researcher perceptions of violent areas	Randomized experiment; 24 places were matched into like pairs based on simple quantitative and qualitative analyses; control and treatment groups were each randomly allocated 12 places within matched pairs Differences of differences between a number of indicators during 6-month pretest and posttest periods, comparing control and experimental groups
St. Louis (MO) POP in Three Drug Market Locations Study (Hope 1994)	POP interventions comprising mostly traditional enforcement tactics with some situational responses Nine-month intervention period No threats to the integrity of the treatment reported	Subjective selection of POP efforts made at three hot spot locations comprising specific addresses associated with street-level drug sales	Quasi-experiment with nonequivalent control group; changes in citizen calls at hot spot addresses location were compared to changes in calls at other addresses on the block as well as other blocks in surrounding areas Simple trend analyses including 12-month preintervention and 6-month post-intervention periods
Kansas City (MO) Crack House Police Raids Program (Sherman and Rogan 1995a)	Court-authorized raids on crack houses conducted by uniformed police officers Intervention period was the day of the raid All but seven cases received randomly assigned treatment as assigned No threats to the integrity of the treatment reported	Two hundred seven blocks with at least five calls for service in the 30 days preceding an undercover drug buy; sample was restricted to raids on the inside of residences where a drug buy was made that was eligible for a search warrant	Randomized experiment; raids were randomly allocated to 104 blocks and were conducted at 98 of those sites; the other 109 blocks did not receive raids Differences of differences analytic design; pre-post time periods were 30 days before and after raid for experimental blocks and 30 days before and after controlled buy at treatment block for control blocks

(continued)

TABLE 1 Continued

Study	Treatment	Hot Spot Definition	Research Design ^a
Kansas City (MO) Gun Project (Sherman and Rogan 1995b)	Intensive enforcement of laws against illegally carrying concealed firearms via safety frisks during traffic stops, plain view, and searches incident to arrest on other charges Twenty-nine-week intervention period No threats to the integrity of the treatment reported; two phases of patrols reported due to shifts in grant funding	Eight-by-ten-block target beat selected by federal officials for Weed and Seed grant Enforcement actions targeted at hot spots in beat identified by computer analyses	Quasi-experiment with nonequivalent control group; target beat matched to a control beat with nearly identical levels of drive-by shootings Difference of means comparing weekly gun crimes between intervention period and 29-week pretest period Time series analyses of weekly gun crimes for 52-week before-after period Analysis of variance models with one extra pre year and post year to examine changes in homicides and drive-by shootings for both patrol phases
Houston (TX) Targeted Beat Program (Caeti 1999)	Patrol initiative designed to reduce index crimes in seven beats Three beats used high-visibility patrol at hot spots Three beats used zero tolerance policing at hot spots One beat used a POP approach comprising mostly traditional tactics to control hot spots Two-year intervention period Three high-visibility patrol beats managed by one substation Experienced police resistance to the program	Seven highest crime beats were selected for this program Enforcement actions targeted at hot spots in beats identified by computer analyses	Quasi-experiment with nonequivalent control groups; target beats were matched to noncontiguous comparison beats through cluster analysis and correlations of census data Difference of means in reported crime were used to evaluate program effects for 3-year preintervention and 2-year intervention period

TABLE 1 Continued

Study	Treatment	Hot Spot Definition	Research Design ^a
Beenleigh (Australia) Calls for Service Project (Criminal Justice Commission 1998)	POP interventions comprising mostly traditional enforcement tactics with some situational responses Six-month intervention period No threats to the integrity of the treatment reported	Two groups of 10 addresses that experienced the highest volume of calls during separate 6-month periods	Quasi-experiment with nonequivalent control group: Beenleigh, a lower-income suburb with a population of 40,000, was matched to similar Brown Plains suburb Simple time series analyses of total monthly calls for service in 5-month pretest, 6-month intervention, and 3-month posttest periods Nineteen pre-post, no control case studies

a. The control group in each study received routine levels of traditional police enforcement tactics.

1999, 549-50). The Kansas City Crack House Raid experiment focused on blocks that had at least five calls for service in the month preceding an undercover drug buy made on the inside of a residence (Sherman and Rogan 1995a, 767). The remaining studies used less refined methods. Simple ranking procedures to identify high-volume addresses based on numbers of citizen calls for service were used to define specific locations for focused police interventions in the Minneapolis RECAP experiment (Sherman, Buerger, and Gartin 1989, 4-5) and the Beenleigh quasi-experiment (Criminal Justice Commission 1998, 9). In the Kansas City Gun quasi-experiment (Sherman and Rogan 1995b, 678) and the Houston Targeted Beat quasi-experiment (Caeti 1999, 248-50), simple computer analyses of call and incident data were used to focus police

interventions within larger targeted areas. The high-activity addresses evaluated in the St. Louis POP quasi-experiment were subjectively selected after a researcher searched for candidate cases within the St. Louis Police Department (Hope 1994, 10).

Effects of hot spots policing programs on crime and disorder

Noteworthy crime reductions were reported in seven of the nine selected studies (see Table 2). The strongest crime control gains were reported in the Jersey City POP at Violent Places experiment and the Kansas City Gun Project quasi-experiment. In the Jersey City POP experiment, the enforcement POP strategy resulted in statistically significant reductions in total calls for service and total crime incidents, as

well as varying reductions in all sub-categories of crime types, in the treatment violent crime hot spots relative to controls (Braga et al. 1999, 562-63). Analyses of systematic observation data collected during the pretest and posttest periods revealed that social disorder was alleviated at 10 of 11 treatment places relative to controls (Braga et al. 1999, 564).⁴ Nonexperimental systematic observation data collected pretest and posttest at treatment places suggested that physical disorder was alleviated at 10 of 11 treatment places (Braga et al. 1999, 564).⁵ Pretest and posttest interviews with key community members suggested that community perceptions of places improved at 7 of 12 treatment places (Braga 1997, 235-36). Proactive patrols focused on firearm recoveries in the Kansas City quasi-experiment resulted in a statistically significant 65 percent increase in gun seizures and a statistically significant 49 percent decrease in gun crimes in the target beat area; gun seizures and gun crimes in the comparison beat area did not significantly change (Sherman and Rogan 1995b, 684). A separate nonequivalent control group quasi-experiment examined community reaction to the Kansas City intervention and found that the community strongly supported the intensive patrols and perceived an improvement in the quality of life in the treatment neighborhood (Shaw 1995).

The Minneapolis Hot Spots Patrol experiment revealed that roughly doubling the level of patrol in crime hot spots resulted in modest, but significant, reductions in total calls for

service, ranging from 6 percent to 13 percent, in treatment places relative to control places (Sherman and Weisburd 1995, 643). Moreover, systematic observations of the hot spots suggested that disorder was only half as prevalent in treatment hot spots as compared to control hot spots (Sherman and Weisburd 1995, 643). The Jersey City DMAP experiment suggested that well-planned crack-downs followed by patrol maintenance resulted in significant reductions in disorder calls for service at the treatment drug hot spots relative to controls (Weisburd and Green 1995, 723-26). Similarly, the St. Louis POP quasi-experiment found that the enforcement POP strategy was associated with varying degrees of reductions in total calls for service at all three high-activity drug locations; these reductions were greater than any reductions observed in other blocks and intersections in the surrounding areas (Hope 1994, 17, 21, 26). The Kansas City Crack House Raid experiment reported modest decreases in citizen calls for service and crime offenses at treatment blocks relative to controls that decayed within two weeks of the raids (Sherman and Rogan 1995a, 770-76).

The results of the Houston Targeted Beat quasi-experiment must be interpreted with caution. The key analytic measures of effectiveness were comparisons of pretest and posttest differences (as measured by *t* tests) in reported crime incidents at treatment beats relative to control beats (Caeti 1999, 319-22). However, the research did not examine the differences of differences between

TABLE 2
RESULTS OF HOT SPOTS POLICING EVALUATIONS

Study	Crime Outcomes	Other Outcomes	Displacement/ Diffusion
Minneapolis (MN) RECAP Program (Sherman, Buerger, and Gartin 1989)	No statistically significant differences in the prevalence of citizen calls for service	None	Not measured
Minneapolis (MN) Hot Spots Patrol Program (Sherman and Weisburd 1995)	Modest, but statistically significant, reductions in total crime calls for service ranging from 6 percent to 13 percent	Systematic observations of crime and disorder were half as prevalent in experimental as in control hot spots	Not measured
Jersey City (NJ) DMAP (Weisburd and Green 1995)	Statistically significant reductions in disorder calls for service in treatment drug markets relative to control drug markets	None	Examined displacement and diffusion effects in two-block catchment areas surrounding the treatment and control drug places and replicated the drug market identification process Little evidence of displacement; analyses suggest modest diffusion of benefits

(continued)

treatment and control areas. As such, the quasi-experimental analyses did not directly measure whether observed changes in treatment beats were significantly different from observed changes in control beats.

Reported significant reductions in treatment beats relative to nonsignificant decreases and any increases in reported crime can be interpreted with some confidence. However, conclusions that the

TABLE 2 Continued

Study	Crime Outcomes	Other Outcomes	Displacement/ Diffusion
Jersey City (NJ) POP at Violent Places Pro- ject (Braga et al. 1999)	Statistically significant reductions in total calls for service and total crime incidents All crime categories experienced varying reductions; statistically significant reductions in street fight calls, property calls, narcotics calls, robbery incidents, and property crime incidents	Observation data revealed that social disorder was alleviated at 10 of 11 treatment places relative to control places Nonexperimental observation data revealed that physical disorder was alleviated at 10 of 11 treatment places Nonexperimental interviews with key community members in target locations suggest no noteworthy improvements in citizen perceptions of places	Examined displacement and diffusion effects in two-block catchment areas surrounding the treatment and control drug places Little evidence of immediate spatial displacement or diffusion
St. Louis (MO) POP in Three Drug Market Locations Study (Hope 1994)	All three drug locations experienced varying reductions in total calls Regression analysis suggests that reductions on blocks where drug locations were located were greater than other blocks and intersections in surrounding areas	None	Compared trends in calls at targeted addresses to trends in calls at other addresses on same block Location 1—significant displacement into surrounding addresses; location 2—no displacement or diffusion; location 3—no displacement or diffusion

TABLE 2 Continued

Study	Crime Outcomes	Other Outcomes	Displacement/ Diffusion
Kansas City (MO) Crack House Police Raids Program (Sherman and Rogan 1995a)	Modest decreases in citizen calls and offense reports that decayed in 2 weeks	None	Not measured
Kansas City (MO) Gun Project (Sherman and Rogan 1995b)	Sixty-five-percent increase in guns seized by the police; 49-percent decrease in gun crimes	Separate pre-post quasi-experiment surveying citizen opinions of the Kansas City Gun Project suggests citizens were aware of the pro- ject, generally supported the intensive approach, and perceived an improvement in the quality of life in treatment neighborhood	Displacement tests using pre-post dif- ference in means and Auto Regres- sive Integrated Moving Average time series analy- ses were con- ducted in seven contiguous beats No significant dis- placement into specific beats; two beats showed sig- nificant reductions in gun crimes
Houston (TX) Targeted Beat Pro- gram (Caeti 1999)	Aggregated experimental beats experienced signifi- cant reductions in auto theft, total part 1 index crimes, and total part 1 suppressible (robbery, burglary, auto theft) index crimes relative to aggregate control beats Three zero-tolerance beats experienced mixed results; certain reported crimes decreased in particular beats Three high-visibility beats experienced reductions in a wide variety of index crimes Problem-solving beat experi- enced no significant decrease relative to control beat	None	Simple pre-post analyses of reported crimes in beats contiguous to treatment beats No evidence of sig- nificant displace- ment; contiguous beats surrounding three target areas (problem-solving beat, two zero- tolerance beats) experienced pos- sible diffusion of benefits in particu- lar reported crimes

(continued)

TABLE 2 Continued

Study	Crime Outcomes	Other Outcomes	Displacement/ Diffusion
Beenleigh (Australia) Calls for Service Pro- ject (Crimi- nal Justice Commission 1998)	No noteworthy differences in total number of calls between Beenleigh and Brown Plains areas Noteworthy reductions in calls reported by nonexperimental pre-post impact assessments in 16 of the 19 case studies	None	Not measured

program did not work in treatment beats with reported significant crime reductions relative to control beats with significant crime reductions were not justified. It is completely possible that the observed significant reductions in the treatment beats were significantly greater than the significant reductions in control beats.

Given these caveats, the Houston Targeted Beat quasi-experiment suggests that the aggregated treatment beats experienced significant reductions in auto theft, total part 1 index crimes, and total part 1 patrol-suppressible crimes (robbery, burglary, and auto theft) relative to aggregated control beats. The three treatment beats where zero-tolerance aggressive disorder policing was used to control hot spots experienced mixed reductions in part 1 crimes relative to control beats; the three treatment beats where high-visibility directed patrol was used to control hot spots experienced reductions in a wide variety of part 1 crimes relative to control beats; the one treatment beat where an enforcement POP strategy

was implemented to control hot spots did not experience noteworthy decreases relative to a control beat. The limits of the analytic framework preclude conclusions that certain types of policing strategies may be more effective in preventing crime in hot spots. Nevertheless, the results of this study can be broadly taken to support the position that focused police enforcement efforts can be effective in reducing crime at hot spots.

The Beenleigh Calls for Service quasi-experiment found no noteworthy differences in the total number of calls in the town of Beenleigh relative to the matched town of Brown Plains (Criminal Justice Commission 1998, 25). However, simple nonexperimental pre-post comparisons found noteworthy reductions in total citizen calls for service in 16 of 19 case studies included in the report. The research team concluded that the POP strategy enjoyed some success in reducing calls for service at the targeted locations, but due to the small scale of the project and limitations of the research design, these

crime prevention gains were not large enough to be detected at the aggregate town level (Criminal Justice Commission 1998, 28).

The Minneapolis RECAP experiment showed no statistically significant differences in the prevalence of citizen calls for service at addresses that received the POP treatment as compared to control addresses (Sherman, Buerger, and Gartin 1989, 21). These results were probably due to the assignment of too many cases to the RECAP unit, thus outstripping the amount of resources and attention the police officers provided to each address (Buerger 1993). Moreover, the simple randomization procedure led to the placing of some of the highest-event addresses into the treatment group; this led to high variability between the treatment and control groups and low statistical power. Although the overall findings suggest that the RECAP program was not effective in preventing crime, a case study analysis revealed that several addresses experienced dramatic reductions in total calls for service (Buerger 1992).

Beyond the RECAP experiment, only three other studies reported potential threats to the internal validity of the research designs. The Jersey City DMAP experiment (Weisburd and Green 1995, 721) and Jersey City POP at Violent Places experiment (Braga 1997, 107-42) reported instances where the treatments were threatened by subversion by the participants. The officers charged with preventing crime at the treatment hot spots were resistant to participating in the programs, and

this resulted in low levels of treatment during the early months of both experiments. In the Jersey City DMAP experiment, this situation was remedied by providing a detailed crackdown schedule to the narcotics squad commander and extending the experiment from 12 to 15 months. This problem was remedied in the Jersey City POP experiment by changing the leadership of the POP unit, developing an implementation accountability system, and providing additional training in the POP approach as well as through other smaller adjustments.

The patrol treatment in the Minneapolis Hot Spots experiment (Sherman and Weisburd 1995, 638-39) was disrupted during summer months due to a peak in the overall calls for service received by the Minneapolis Police Department and a shortage of officers due to vacations; this situation was further complicated by changes in the computerized calls for service system implemented in the fall. The changes in the calls for service system and the disappearance of differences in patrol dosage between treatment and control hot spots during summer months were addressed by conducting separate outcome analyses using different intervention time periods; there were no substantive differences in the outcomes of the experiment across the different time periods. Of course, these implementation problems are not unique to these experiments; many well-known criminal justice field experiments have experienced and successfully dealt with methodological difficulties.⁶

Displacement and diffusion effects

Five studies examined whether focused police efforts were associated with crime displacement or diffusion of crime control benefits (see Table 2). Prior to a discussion of the research findings, it must be noted that it is very difficult to detect displacement effects because the potential manifestations of displacement are quite diverse. As Barr and Pease (1990) suggested,

if, in truth, displacement is complete, some displaced crime will fall outside the areas and types of crime being studied or be so dispersed as to be masked by background variation. . . . No research study, however massive, is likely to resolve the issue. (293)

Diffusion effects are likely to be as difficult to assess. All five studies were limited to examining immediate spatial displacement and diffusion effects, that is, whether focused police efforts in targeted areas resulted in crime's moving around the corner or whether these proximate areas experienced unintended crime control benefits.

None of the five studies reported substantial immediate spatial displacement of crime into areas surrounding the targeted locations. Four studies suggested possible diffusion effects associated with the focused police interventions. The two Jersey City experiments used the most sophisticated methodologies to measure immediate spatial displacement and diffusion effects. In both experiments, the research teams examined

the differences of differences in citizen calls for service in two-block catchment areas surrounding treatment and control hot spot areas. The Jersey City POP at Violent Places experiment found little evidence of displacement in the catchment areas and reported significant decreases in total calls for service and disorder calls for service in the catchment areas.⁷ The Jersey City DMAP experiment found significant decreases in public morals calls for service and narcotics calls for service in treatment catchment areas relative to controls. The Jersey City DMAP experiment also replicated the drug market identification process and found six new drug hot spots within two blocks of the treatment locations. This result suggests that some modest displacement may have occurred, but it could not be determined whether these new drug hot spots were the result of experimental squad actions or control squad actions or if they would have developed naturally without any enforcement efforts (Weisburd and Green 1995, 730-31).

The Kansas City Gun quasi-experiment used before and after difference of means tests and Auto Regressive Integrated Moving Average time series analyses to examine whether gun crimes were displaced into seven beats contiguous to the target beat. None of the contiguous beats showed significant increases in gun crime, and two of the contiguous beats reported significant decreases in gun crimes. The Houston Targeted Beat quasi-experiment examined displacement and diffusion effects by

conducting simple pre-post comparisons of reported part 1 index crimes in beats contiguous to the treatment beats. The analyses revealed no overall evidence of displacement, and contiguous beats surrounding three targeted beats (one POP beat and two zero tolerance beats) experienced possible diffusion effects as several types of reported index crimes decreased notably. The St. Louis POP at Drug Locations quasi-experiment assessed displacement effects by comparing trends in calls for service at targeted addresses to nontargeted addresses on the same block. Significant increases in calls for service at nontargeted addresses on the same block were reported in only one of the three analyses. The primary cause of the observed displacement was a shift in drug sales from a targeted apartment building to a similar nontargeted apartment building on the same block.

CONCLUSION

The results of this systematic review support the assertion that focusing police efforts at high-activity crime places can be used to good effect in preventing crime. Seven of nine experimental and quasi-experimental evaluations reported noteworthy crime and disorder reductions. Methodological problems in the research and evaluation designs probably accounted for the lack of crime prevention gains in the Minneapolis RECAP and Beenleigh studies. This review also supports the growing body of research evidence that suggests that focused crime

prevention efforts do not inevitably lead to the displacement of crime problems (Clarke and Weisburd 1994; Hesseling 1994; Eck 1993); rather, when displacement was measured, it was quite limited, and often, unintended crime prevention benefits were associated with the hot spots policing programs.

Unfortunately, the results of this review provide criminal justice policy makers and practitioners with little insight on what types of policing strategies are most preferable in controlling crime hot spots. Clearly, the enforcement-oriented strategies reviewed here work in preventing crime. We do not know, however, which enforcement strategies are more effective in preventing crime and under what circumstances certain strategies are more appropriate. This review also offers little insight on the effectiveness of enforcement tactics relative to other broader-based community problem-solving policing programs (see, for example, Skogan and Hartnett 1997). This small body of evaluation research does not unravel the important question of whether enforcement-oriented programs result in long-term crime reductions in hot spot areas. Research suggests that a variety of situational factors cause crime to cluster at particular places (Eck and Weisburd 1995). Proactive patrols, raids, and crackdowns do not specifically address the site features and facilities that cause specific locations to generate high volumes of crime. With the exception of the POP programs with limited situational interventions, the place-oriented inter-

ventions in this review consisted of uniform tactics applied across heterogeneous places. Perhaps a greater focus on changing these criminogenic situational characteristics would result in longer-lasting crime reductions at crime places.

Beyond thinking about the relative crime prevention value of these programs, we need to know more about community reaction to increased levels of police enforcement action. The results of the Kansas City Gun quasi-experiment suggest that residents of communities suffering from high rates of gun violence welcome intensive police efforts against guns (Shaw 1995). However, some observers question the fairness and intrusiveness of such approaches and caution that street searches, especially of young men and minorities, look like police harassment (Moore 1980; Kleck 1991). In New York City, although the gun-oriented policing strategies of the New York Police Department (NYPD) have been credited with a decrease in gun homicides (see, for example, Fagan, Zimring, and Kim 1998), the aggressive policing tactics of the NYPD have been criticized as resulting in increased citizen complaints about police misconduct and abuse of force (Greene 1999). We need to know more about the appropriate ways to implement increased enforcement programs in a manner that will not undermine the legitimacy of the police in the communities they serve. Future evaluations of hot spots policing initiatives that engage enforcement tactics need to focus closely on the reaction of the community to these programs.

Notes

1. For a discussion of "enforcement" and "situational" problem-oriented policing strategies, see Eck (1992).
2. There were multiple distinct abstracts identifying the same study. For example, a doctoral dissertation leading to a journal article would generate two distinct abstracts describing the same evaluation.
3. A replication of the Kansas City Gun Project was not included in this review because the interventions tested did not focus specifically on hot spots within the targeted beats (McGarrell and Chermak 2000).
4. One case was excluded from these analyses because the observational data were inappropriately collected (Braga et al. 1999, 564).
5. One case was excluded from these analyses because it did not have any physical disorder in the pretest and posttest periods (Braga et al. 1999, 564).
6. The landmark Kansas City Preventive Patrol Experiment had to be stopped and restarted three times before it was implemented properly; the patrol officers did not respect the boundaries of the treatment and control areas (Kelling et al. 1974). Likewise, the design of the Minneapolis Spouse Abuse Experiment was modified to a quasi-experiment when randomization could not be achieved because officers chose to arrest certain offenders on a nonrandom basis (Berk, Smyth, and Sherman 1988).
7. Property crime incidents increased significantly while property crime calls for service did not significantly change in the treatments catchment areas relative to controls. The research team viewed this result as an artifact of the experiment rather than a substantive finding (Braga et al. 1999, 567-69).

References

- Barr, Robert and Ken Pease. 1990. Crime Placement, Displacement, and Deflection. In *Crime and Justice: A Review of Research*. Vol. 12, ed. Michael Tonry and Norval Morris. Chicago: University of Chicago Press.
- Berk, Richard, Gordon Smyth, and Lawrence W. Sherman. 1988. When Random Assignment Fails: Some Lessons

- from the Minneapolis Spouse Abuse Experiment. *Journal of Quantitative Criminology* 4:209-23.
- Braga, Anthony A. 1997. Solving Violent Crime Problems: An Evaluation of the Jersey City Police Department's Pilot Program to Control Violent Places. Ph.D. diss., Rutgers University, NJ.
- Braga, Anthony A., David L. Weisburd, Elin Waring, Lorraine Green Mazerolle, William Spelman, and Francis Gajewski. 1999. Problem-Oriented Policing in Violent Crime Places: A Randomized Controlled Experiment. *Criminology* 37:541-80.
- Brantingham, Paul and Patricia Brantingham, eds. 1991. *Environmental Criminology*. 2nd ed. Prospect Heights, IL: Waveland Press.
- Buerger, Michael, ed. 1992. *The Crime Prevention Casebook: Securing High Crime Locations*. Washington, DC: Crime Control Institute.
- . 1993. Convincing the Recalcitrant: Reexamining the Minneapolis RECAP Experiment. Ph.D. diss., Rutgers University, NJ.
- . 1994. The Problems of Problem Solving: Resistance, Interdependencies, and Conflicting Interests. *American Journal of Police* 13:1-36.
- Caeti, Tory. 1999. Houston's Targeted Beat Program: A Quasi-Experimental Test of Police Patrol Strategies. Ph.D. diss., Sam Houston State University, TX.
- Campbell, Donald T. and Julian Stanley. 1966. *Experimental and Quasi-Experimental Designs for Research*. Chicago: Rand McNally.
- Caulkins, Jonathan P., Richard C. Larson, and Thomas F. Rich. 1993. Geography's Impact on the Success of Focused Local Drug Enforcement Operations. *Socio-Economic Planning Sciences* 27:119-30.
- Clarke, Ronald V., ed. 1992. *Situational Crime Prevention: Successful Case Studies*. Albany, NY: Harrow and Heston.
- Clarke, Ronald V. and David L. Weisburd. 1994. Diffusion of Crime Control Benefits: Observations on the Reverse of Displacement. In *Crime Prevention Studies*. Vol. 2, ed. Ronald V. Clarke. Monsey, NY: Criminal Justice Press.
- Cohen, Lawrence E. and Marcus Felson. 1979. Social Change and Crime Rate Trends: A Routine Activity Approach. *American Sociological Review* 44:588-605.
- Cook, Thomas D. and Donald T. Campbell. 1979. *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Boston: Houghton Mifflin.
- Cornish, Derek and Ronald V. Clarke, eds. 1986. *The Reasoning Criminal: Rational Choice Perspectives on Offending*. New York: Springer-Verlag.
- Criminal Justice Commission. 1998. *Beenleigh Calls for Service Project: Evaluation Report*. Brisbane, Australia: Author.
- Eck, John E. 1992. Alternative Futures for Policing. In *Police Innovation and Control of the Police*, ed. David L. Weisburd and Craig Uchida. New York: Springer-Verlag.
- . 1993. The Threat of Crime Displacement. *Criminal Justice Abstracts* 25:527-46.
- . 1997. Preventing Crime at Places. In *Preventing Crime: What Works, What Doesn't, What's Promising*, ed. Lawrence W. Sherman, Denise C. Gottfredson, Doris Layton MacKenzie, John E. Eck, Peter Reuter, and Shawn D. Bushway. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Eck, John E. and Julie Wartell. 1996. *Reducing Crime and Drug Dealing by Improving Place Management: A Randomized Experiment* (Final report to the San Diego Police Department). Washington, DC: Crime Control Institute.

- Eck, John E. and David L. Weisburd. 1995. Crime Places in Crime Theory. In *Crime and Place*, ed. John E. Eck and David L. Weisburd. Monsey, NY: Criminal Justice Press.
- Fagan, Jeffrey, Franklin E. Zimring, and June Kim. 1998. Declining Homicide in New York City: A Tale of Two Trends. *Journal of Criminal Law and Criminology* 88:1277-324.
- Goldstein, Herman. 1990. *Problem-Oriented Policing*. Philadelphia: Temple University Press.
- Green Mazerolle, Lorraine, James F. Price, and Jan Roehl. 2000. Civil Remedies and Drug Control: A Randomized Field Trial in Oakland, California. *Evaluation Review* 24:212-41.
- Greene, Judith A. 1999. Zero Tolerance: A Case Study of Police Practices and Policies in New York City. *Crime & Delinquency* 45:171-81.
- Greenwood, Peter, Jan Chaiken, and Joan Petersilia. 1977. *The Investigation Process*. Lexington, MA: Lexington Books.
- Hesseling, Rene. 1994. Displacement: A Review of the Empirical Literature. In *Crime Prevention Studies*. Vol. 3, ed. Ronald V. Clarke. Monsey, NY: Criminal Justice Press.
- Hope, Timothy. 1994. Problem-Oriented Policing and Drug Market Locations: Three Case Studies. In *Crime Prevention Studies*. Vol. 2, ed. Ronald V. Clarke. Monsey, NY: Criminal Justice Press.
- Kelling, George, Anthony Pate, Duane Dickman, and Charles Brown. 1974. *The Kansas City Preventive Patrol Experiment: A Technical Report*. Washington, DC: Police Foundation.
- Kleck, Gary. 1991. *Point Blank: Guns and Violence in America*. New York: Aldine de Gruyter.
- McGarrell, Edmund and Steven Chermak. 2000. *Targeting Firearms Violence Through Directed Police Patrol*. Washington, DC: Brookings Institution.
- Moore, Mark H. 1980. The Police and Weapons Offenses. *Annals of the American Academy of Political and Social Science* 452:22-32.
- Novak, Kenneth J., Jennifer Hartman, Alexander Holsinger, and Michael Turner. 1999. The Effects of Aggressive Policing of Disorder on Serious Crime. *Policing: An International Journal of Police Strategies and Management* 22:171-90.
- Petrosino, Anthony, Robert Boruch, Cath Rounding, Steve McDonald, and Iain Chalmers. In press. Assembling a Social, Psychological, Educational, and Criminological Trials Register (SPECTR). *Evaluation Research in Education*.
- Pierce, Glenn L., Susan Spaar, and LeBaron Briggs. 1988. *The Character of Police Work: Strategic and Tactical Implications*. Boston: Northeastern University, Center for Applied Social Research.
- Reppetto, Thomas. 1976. Crime Prevention and the Displacement Phenomenon. *Crime & Delinquency* 22:166-77.
- Shaw, James. 1995. Community Policing Against Guns: Public Opinion of the Kansas City Gun Experiment. *Justice Quarterly* 12:695-710.
- Sherman, Lawrence W. 1995. The Police. In *Crime*, ed. James Q. Wilson and Joan Petersilia. San Francisco: ICS Press.
- . 1997. Policing for Crime Prevention. In *Preventing Crime: What Works, What Doesn't, What's Promising*, ed. Lawrence W. Sherman, Denise C. Gottfredson, Doris Layton MacKenzie, John E. Eck, Peter Reuter, and Shawn D. Bushway. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Sherman, Lawrence W., Michael Buerger, and Patrick Gartin. 1989. *Repeat Call Address Policing: The Minneapolis*

- RECAP Experiment (Final report to the National Institute of Justice). Washington, DC: Crime Control Institute.
- Sherman, Lawrence W., Patrick Gartin, and Michael Buerger. 1989. Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. *Criminology* 27:27-56.
- Sherman, Lawrence W. and Dennis Rogan. 1995a. Deterrent Effects of Police Raids on Crack Houses: A Randomized Controlled Experiment. *Justice Quarterly* 12:755-82.
- . 1995b. Effects of Gun Seizures on Gun Violence: "Hot Spots" Patrol in Kansas City. *Justice Quarterly* 12:673-94.
- Sherman, Lawrence W. and David L. Weisburd. 1995. General Deterrent Effects of Police Patrol in Crime "Hot Spots": A Randomized, Controlled Trial. *Justice Quarterly* 12:625-48.
- Skogan, Wesley G. and Susan M. Hartnett. 1997. *Community Policing, Chicago Style*. New York: Oxford University Press.
- Spelman, William and Dale Brown. 1984. *Calling the Police: Citizen Reporting of Serious Crime*. Washington, DC: Government Printing Office.
- Weisburd, David L. 1997. *Reorienting Criminal Justice Research and Policy: From the Causes of Criminality to the Context of Crime*. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Weisburd, David L. and Lorraine Green. 1995. Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment. *Justice Quarterly* 12:711-36.
- Weisburd, David L., Lisa Maher, and Lawrence W. Sherman. 1992. Contrasting Crime General and Crime Specific Theory: The Case of Hot Spots of Crime. *Advances in Criminological Theory* 4:45-69.
- Weisburd, David L., Lawrence W. Sherman, and Anthony J. Petrosino. 1990. *Registry of Randomized Experiments in Criminal Sanctions, 1950-1983*. Los Altos, CA: Sociometrics Corporation, Data Holdings of the National Institute of Justice.
- Wilson, James Q. and George Kelling. 1982. Broken Windows: The Police and Neighborhood Safety. *Atlantic Monthly* Mar.:29-38.